

Table: FIFRA test cost estimates. EPA/OPP/BEAD. February 2015.

Test Guideline	Test Name	Average Test Cost Adjusted for Inflation to 2013
810	Product Performance	
810	Prion-related claims	\$439,719
810.1000	Overview, Definitions, and General Considerations	\$119,606
810.1550	Product Identity and Disclosure of Ingredients (Composition) (Chemical Identity)	\$267
810.2100	Products for hard surfaces -EPA Disinfectant test	\$7,894
810.2100	Products for hard surfaces - AOAC Fungicide test	\$1,914
810.2100	Chemical Analysis	\$5,974
810.2100	Products for hard surfaces - Fungicidal test	\$1,914
810.2100	Products for hard surfaces - Virucidal activity method	\$4,784
810.2100	Products for hard surfaces -AOAC Tuberculocidal test	\$3,887
810.2100	Products for hard surfaces -Sanitizer test non food	\$4,784
810.2100	Products for hard surfaces - Hard inanimate surface non food	\$4,784
810.2100	Products for hard surfaces - AOAC Germicidal, detergent sanitizers	\$4,186
810.2100	Products for hard surfaces -AOAC use dilution test, germicidal	\$7,176
810.2100	Products for hard surfaces -AOAC Use dilution/germicidal spray/carrier	\$7,176
810.2200	Products for hard surfaces - AVG	\$6,924
810.2200	Limited disinfectant	\$4,701
810.2200	Broad spectrum disinfectant	\$6,449
810.2200	Hospital disinfectant	\$6,706
810.2200	Fungicidal disinfectant	\$4,721
810.2200	Virucidal disinfectant	\$14,623
810.2200	Tuberculocidal disinfectant	\$5,249
810.2200	Additional bacteria	\$4,568
810.2200	Non-food contact	\$5,817
810.2200	Food contact - Halide products	\$4,985
810.2200	Food contact - Non-halide products	\$6,810
810.2200	Sanitizers for urinal and toilet bowl water and in-tank sanitizers	\$6,347
810.2200	Residual self-sanitizing - wet surfaces	\$5,830
810.2200	Sterilants	\$13,208
810.2300	Products for fabrics/textiles -EPA Carpet Sanitizer	\$3,887
810.2400	Products for air sanitizers	\$6,155
810.2400	Chemical Analysis	\$209
810.2400	Chemical Analysis	\$4,784
810.2600	Products for microbial pests associated with human and animal waste	\$6,401
810.2700	Products for treating water systems AOAC- water disinfectants pools	\$8,970
810.3000	General considerations for Efficacy of invertebrate control agents	\$718
810.3100	Soil treatments for imported fire ants	\$17,279
810.3200	Livestock, poultry, fur and wool bearing animal treatments	\$180,167
810.3300	Treatments to control pests of human and pets	\$256,262
810.3400	Mosquito, blackfly and biting midge treatments	\$50,357
810.3500	Premises Treatments	\$16,786
810.3600	Structural Treatments	\$32,398

810.3700	Insect repellants for human skin and outdoor premises	\$91,168
810.3700	Cage studies with mosquitoes	\$21,933
810.3700	Cage studies with biting flies	\$24,311
810.3700	Lab studies with ticks	\$32,239
810.3700	Field studies with mosquitoes	\$73,991
810.3700	Field studies with biting flies	\$73,991
810.3800	Methods for efficacy testing of termite baits	\$67,143
830	Product Chemistry	
830.1550	Product identity and composition	\$267
830.1600	Description of materials used to produce the product	\$374
830.1620	Description of production process	\$467
830.1650	Description of formulation process	\$467
830.1670	Discussion of formulation of impurities	\$467
830.1700	Preliminary analysis	\$35,241
830.1750	Certified limits	\$296
830.1800	Enforcement analytical method	\$18,484
830.1900	Submittal of samples	\$592
830.6302	Color	\$837
830.6303	Physical state	\$837
830.6304	Odor	\$837
830.6313	Stability to normal and elevated temperatures, metals, and metal ions	\$9,867
830.6314	Oxidation/reduction: chemical incompatibility	\$3,350
830.6315	Flammability	\$2,392
830.6316	Explosibility	\$4,659
830.6317	Storage stability	\$13,755
830.6319	Miscibility	\$1,316
830.6320	Corrosion characteristics	\$3,289
830.6321	Dielectric breakdown voltage	\$2,826
830.7000	pH	\$897
830.7050	UV/visible light absorption	\$2,418
830.7100	Viscosity	\$1,674
830.7200	Melting point/melting range	\$1,435
830.7220	Boiling point/boiling range	\$1,794
830.7300	Density/relative density/bulk density	\$1,674
830.7370	Dissociation constants in water	\$5,422
830.7520	Particle size, fiber length, and diameter distribution	\$1,594
830.7550	Partition coefficient (n-octanol/water) - shake flask method	\$7,460
830.7560	Partition coefficient (n-octanol/water) -generator column	\$7,974
830.7570	Partition coefficient (n-octanol/water) -estimation chromatography	\$5,248
830.7840	Water Solubility: column elution/shake flask	\$10,781
830.7860	Water solubility	\$10,781
830.7950	Vapor pressure	\$17,941
835	Environmental Fate	
835	Use Profile	\$280
835	Monitoring of representative U.S. waters	\$241,527
835	Leaching study	\$48,119
835.1110	Activated Sludge Sorption Isotherm	\$20,629
835.1230	Sediment and soil adsorption/desorption	\$44,682

835.1240	Leaching and adsorption/desorption	\$61,026
835.1410	Laboratory volatility	\$29,352
835.2120	Hydrolysis	\$43,843
835.2210	Direct Photolysis	\$41,094
835.2240	Photodegradation in water	\$53,574
835.2370	Photodegradation in air	\$143,499
835.2410	Soil photolysis	\$77,340
835.3110	Ready Biodegradability	\$9,061
835.3180	Freshwater and marine or estuarine environmental expression testing	\$134,992
835.3220	Porous Pot Test	\$34,499
835.3300	Soil Persistence and Degradation	\$134,286
835.4100	Aerobic soil metabolism	\$112,878
835.4200	Anaerobic soil metabolism	\$156,988
835.4300	Aerobic aquatic metabolism	\$106,843
835.4400	Anaerobic aquatic metabolism	\$112,095
835.6100	Terrestrial field dissipation	\$380,068
835.6200	Aquatic field dissipation	\$319,646
835.6300	Forestry dissipation	\$329,514
835.6400	Combination and tank mixes	\$514,750
835.7100	Groundwater Monitoring	\$1,598,055
835.8100	Field volatility	\$542,225
840	Spray Drift	
840.1100	Spray droplet size spectrum	\$289,554
840.1200	Spray drift field deposition	\$18,185
850	Ecological Effects Tests	
850	Whole sediment chronic invertebrates fresh and marine	\$67,698
850	Acute toxicity to aquatic insects	NA
850	Aquatic insect life-cycle study	NA
850	Simulated or actual field testing for aquatic insects	NA
850	Nontarget insect testing - predators and parasites	NA
850	Nontarget insect testing - predators and parasites	NA
850.1000	Use Profile	\$280
850.1010	Aquatic invertebrate acute toxicity, freshwater daphnids	\$20,333
850.1020	Gammarid acute toxicity test	NA
850.1025	Oyster acute toxicity test	\$24,086
850.1035	Mysid acute toxicity test	\$24,086
850.1045	Penaeid acute toxicity test	\$24,086
850.1055	Bivalve acute tox larval (embryo/larval)	\$24,086
850.1075	Fish acute toxicity (freshwater)	\$13,380
850.1075	Fish acute toxicity test (estuarine/marine)	\$12,954
850.1300	Daphnid chronic toxicity test	\$141,210
850.1350	Mysid chronic tox - aquatic invertebrate life-cycle (saltwater)	\$43,457
850.1400	Fish early-life stage toxicity test (freshwater)	\$44,588
850.1450	Fish early-life stage toxicity test (saltwater)	NA
850.1500	Fish life-cycle toxicity	\$612,979
850.1710	Aquatic Bioavailability/Biomagnification: Oyster BCF	\$138,671
850.1730	Aquatic Bioavailability/Biomagnification: Fish BCF	\$157,172
850.1735	Whole sediment acute toxicity invertebrates (freshwater)	\$22,898

850.1740	Whole sediment acute toxicity invertebrates (marine)	\$48,920
850.1790	Chironomid sediment toxicity test	\$96,573
850.1800	Tadpole/sediment subchronic toxicity test	\$227,884
850.1850	Aquatic food chain transfer - Bioavailability	\$363,690
850.1900	Generic freshwater microcosm test (laboratory)	\$343,241
850.1925	Site-specific aquatic microcosm test (laboratory)	\$290,882
850.1950	Simulated or actual field testing - field animal	\$612,979
850.1950	Simulated or actual field testing - aquatic	\$717,634
850.1950	Simulated or actual field testing - insect predators	\$104,655
850.1950	Simulated or actual field testing - plants	\$74,754
850.2100	Avian acute oral toxicity test	\$12,080
850.2200	Avian dietary toxicity test	\$7,750
850.2300	Avian reproduction test	\$201,237
850.2400	Wild mammal acute toxicity	\$50,357
850.2500	Simulated or actual field testing terrestrial wildlife	\$630,322
850.2500	Simulated or actual field testing - birds	\$717,634
850.3020	Honey bee acute contact toxicity	\$3,797
850.3030	Honey bee toxicity of residues on foliage	\$14,959
850.3040	Field testing for pollinators	\$56,813
850.4000	Background - Nontarget plant testing	NA
850.4025	Target area phytotoxicity	NA
850.4100	Terrestrial plant toxicity (seedling emergence, Tier I)	\$19,079
850.4150	Terrestrial plant toxicity (vegetative vigor, Tier I)	\$19,405
850.4200	Seed germination/root elongation toxicity test	\$13,426
850.4200	Seed germination/root elongation toxicity test	\$33,399
850.4225	Seedling emergence, Tier II	\$24,370
850.4230	Early seed growth toxicity test	NA
850.4250	Vegetative vigor, Tier II	\$38,642
850.4300	Terrestrial plants field study, Tier III	\$45,999
850.4400	Aquatic plant toxicology test using Lemna spp., Tier I	\$40,159
850.4400	Aquatic plant toxicology test using Lemna spp., Tier II	\$39,340
850.4450	Aquatic plants field study, Tier III	\$29,795
850.5100	Soil microbial community toxicity test	\$14,867
850.5400	Algal Toxicity Tier I and Tier II	\$15,081
850.6800	Modified activated sludge, respiration inhibition test	\$4,487
860	Residue Chemistry	
860	Migration Studies	\$117,500
860.1100	Chemical identity	\$1,495
860.1200	Directions for use	\$4,784
860.1300	Nature of the residue in plants	\$119,606
860.1300	Nature of the residue in livestock	\$126,582
860.1340	Residue analytical method - plants	\$15,211
860.1340	Residue analytical method - livestock	\$78,342
860.1360	Multiresidue method	\$28,705
860.1380	Storage stability data	\$20,702
860.1400	Water	\$64,288
860.1400	Irrigated crops (<i>one-crop</i>)	\$91,475
860.1400	Fish	\$124,390

860.1460	Food handling	\$245,192
860.1480	Meat/milk/poultry/eggs	\$178,213
860.1500	Crop field trials	\$87,450
860.1520	Processed food/feed	\$94,010
860.1540	Reduction of Residues	\$17,941
860.1550	Proposed tolerance	\$6,413
860.1560	Reasonable grounds in support of the petition	\$11,961
860.1650	Submittal of analytical reference standards	\$374
860.1850	Confined accumulation in rotational crops	\$279,588
860.1900	Field accumulation in rotational crops	\$179,374
870	Health Effects	
870	Reference list of all studies/papers known to the applicant concerning mutagenicity	\$467
870.1100	Acute oral toxicity (rat)	\$4,155
870.1200	Acute dermal toxicity	\$6,084
870.1300	Acute inhalation toxicity (rat)	\$29,402
870.1300	Acute inhalation tox (microbials)	\$14,353
870.2400	Acute eye irritation (rabbit)	\$2,392
870.2500	Acute dermal irritation	\$2,392
870.2600	Skin (dermal) sensitization	\$8,492
870.3100	90-day oral toxicity in rodents	\$165,183
870.3150	90-day oral toxicity in non-rodents	\$247,362
870.3200	21/28-day dermal toxicity	\$108,589
870.3250	90-day dermal toxicity	\$138,132
870.3355	Combined Chronic Toxicity/Carcinogenicity Testing of Respirable Fibrous Particles (inhalation route)	\$3,874,901
870.3465	90-day inhalation toxicity (rat)	\$548,198
870.3700	Prenatal developmental toxicity study (rat)	\$122,371
870.3700	Prenatal developmental toxicity study (rabbit)	\$174,224
870.3800	Reproduction and fertility effects (multigeneration) - rat	\$411,173
870.4100	Chronic oral toxicity - dog	\$792,339
870.4200	Carcinogenicity (microbials)	\$1,205,423
870.4200	Carcinogenicity (rat and mouse, preferred)	\$1,687,905
870.5100	Bacterial reverse mutation assay	\$5,553
870.5300	In vitro mammalian cell gene mutation test	\$25,061
870.5375	In vitro mammalian chromosomal aberration test	\$30,053
870.5380	Mammalian spermatogonial chromosomal aberration test	\$23,182
870.5385	Mammalian bone marrow chromosomal aberration test	\$35,887
870.5395	Mammalian erythrocyte micronucleus test	\$24,562
870.5450	Rodent dominant lethal assay	NA
870.5500	Bacterial DNA damage or repair tests	NA
870.5550	Unscheduled DNA synthesis in mammalian cells in culture	NA
870.6100	Acute and 28 day delayed neurotoxicity organophosphorus substances (hen)	\$101,917
870.6200	90-day Neurotoxicity (rat)	\$240,085
870.6200	Acute neurotoxicity (rat)	\$162,668
870.6300	Developmental neurotoxicity study	\$734,412
870.6500	Schedule-controlled operant behavior	\$213,944
870.6850	Peripheral nerve function	\$143,499
870.6855	Neurophysiology: sensory evoked potentials	\$143,499
870.7200	Companion animal safety	\$203,507

870.7485	Metabolism and pharmacokinetics	\$204,482
870.7600	Dermal penetration	\$165,091
870.7800	Immunotoxicity	\$67,754
875	Occupational and Residential Exposure	
875.1100	Dermal outdoor exposure	\$200,767
875.1200	Dermal indoor exposure	\$151,216
875.1300	Inhalation outdoor exposure (HRSB costs not included)	\$470,442
875.1400	Inhalation indoor exposure	\$151,216
875.1500	Biological monitoring	\$225,311
875.1600	Application exposure data reporting and calculations	\$9,784
875.1700	Product use information	\$3,588
875.2100	Dislodgeable foliar residue dissipation and turf transferable residues	\$71,880
875.2200	Soil residue dissipation	\$265,259
875.2300	Indoor surface residue dissipation	\$78,853
875.2400	Dermal exposure	\$163,719
875.2500	Inhalation exposure	\$95,231
875.2600	Biological monitoring (HRSB costs not included)	\$392,035
875.2700	Product use information	\$3,914
875.2800	Description of human activity	\$3,914
875.2900	Data reporting and calculations	\$3,914
875.3000	Nondietary ingestion exposure	\$97,840
880	Microbial Pesticides	
880	Hypersensitivity incidents	\$987
880.1100	Product identity	\$278
880.1200	Description materials, production, formulation	\$1,085
880.1400	Discussion of formation of impurities	\$395
880.3800	Immune Response	\$101,665
880.4350	Non-target insect testing	\$17,941
880.4425	Dispenser - water leaching	\$29,901
885.1100	Product Identity	\$5,980
885.1200	Manufacturing process	\$4,186
885.1200	Deposition of samples	\$4,186
885.1300	Discussion of formulation of unintentional ingredients	\$4,186
885.1400	Analysis of samples	\$89,106
885.1500	Certification of limits	\$419
885.2000	Background for residue analysis of microbial pest control agents	NA
885.2100	Chemical identity	\$789
885.2200	Nature of the residue in plants	\$129,572
885.2250	Nature of the residue in animals	\$140,111
885.2300	Analytical method - plants	\$31,743
885.2350	Analytical method - animals	\$52,517
885.2400	Storage stability, plants	\$37,098
885.2500	Magnitude of residue in plants	\$164,051
885.2550	Magnitude of residue in meat/milk/poultry	\$188,573
885.2600	Magnitude of residue in potable water, fish, and irrigated crops	\$264,857
885.3000	Background Mammalian Infectivity/pathogenicity analysis	\$299,014
885.3050	Acute oral toxicity/pathogenicity	\$39,470
885.3150	Acute pulmonary toxicity/pathogenicity	\$44,852

885.3200	Acute injection toxicity/pathogenicity (intravenous)	\$44,852
885.3200	Acute injection toxicity/pathogenicity (intraperitoneal)	\$14,951
885.3400	Hypersensitivity incidents	\$957
885.3500	Cell Culture	\$35,882
885.3550	Acute toxicity, TI	\$25,715
885.3600	Subchronic toxicity/pathogenicity	\$179,409
885.3650	Reproductive/fertility effects	\$86,714
885.4050	Avian Oral, TI	\$17,941
885.4100	Avian Inhalation toxicity/pathogenicity, TI	\$19,137
885.4150	Wild mammal toxicity/pathogenicity, TI	\$77,744
885.4200	Freshwater fish toxicity/pathogenicity, TI	\$44,852
885.4240	Freshwater invertebrate toxicity/pathogenicity, TI	\$44,852
885.4280	Estuarine/marine animal testing, TI	\$47,842
885.4280	Estuarine/marine invertebrate testing, TI	\$47,842
885.4300	Nontarget plant studies, TI	\$40,024
885.4340	Nontarget insect testing, Tier I	\$12,559
885.4340	Non-target Lepidoptera	\$40,286
885.4350	Beneficial soil invertebrate testing - Collembola	\$13,723
885.4380	Honey bee testing	\$12,974
885.4600	Avian chronic pathogenicity and reproduction, TIII	\$209,310
885.4650	Aquatic invertebrate range testing, TIII	\$30,499
885.4700	Fish life cycle studies, TIII	\$299,014
885.4750	Aquatic ecosystem test	\$418,620
885.5200	Terrestrial environmental expression tests	\$113,625
885.5300	Freshwater environmental expression test	NA
885.5400	Marine or estuarine environmental expression tests	\$113,625